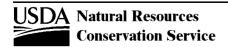
Cottonwood County, Minnesota

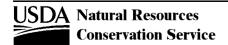
[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|---|---------------------------|------------------------------------|------------------|--------------------|
| 1007: Udorthents, shallow (sanitary landfill) | Udorthents, shallow, sanitary landfill | 100 | Moraines | No | |
| 1010: Pits, quarry | Pits, quarry | 100 | Moraines | Unranked | |
| 1024A: Havelock clay loam, 0 to 2 percent slopes, occasionally flooded | Havelock, occasionally flooded | 80 | Flood plains | Yes | 2B3 |
| | Havelock, frequently flooded | 10 | Flood plains | Yes | 2B3, 4 |
| | Spillco, occasionally flooded | 5 | Flood plains | No | |
| | Comfrey, occasionally flooded | 3 | Flood plains | Yes | 2B3 |
| | Calco, occasionally flooded | 2 | Flood plains | Yes | 2B3 |
| 1055: Aquents (distrubed land), ponded- Udorthents, loamy complex | Aquents, ponded | 55 | Moraines | Yes | 2B3, 3 |
| | Udorthents, loamy (cut and fill land) | 40 | Moraines | No | |
| | Aquolls, ponded | 5 | Moraines | Yes | 2B3, 3 |
| GP: Pits, gravel-Udipsamments complex | Pits, gravel | 80 | Outwash plains, Stream terraces | Unranked | |
| | Udipsamments | 20 | Outwash plains, Stream terraces | Unranked | |



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| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|---------------------------|---------------------------|------------------------------------|------------------|--------------------|
| L5A: | | | | | |
| Delft, overwash-Delft complex, 1 to 4 percent slopes | Delft, overwash | 45 | Moraines | No | |
| | Delft | 35 | Moraines | Yes | 2B3 |
| | Delft, frequently flooded | 7 | Moraines | Yes | 2B3 |
| | Glencoe, depressional | 4 | Moraines | Yes | 2B3, 3 |
| | Terril | 4 | Moraines | No | |
| | Poorly drained soils | 3 | Moraines | Yes | 2B3 |
| | Canisteo | 2 | Moraines | Yes | 2B3 |
| L6A: Biscay loam, 0 to 2 percent slopes | Biscay | 85 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Biscay, depressional | 8 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Mayer | 5 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Cylinder | 2 | Outwash plains, Stream terraces | No | |
| L7A: | 5. | •• | | | 000 |
| Biscay loam, depressional, 0 to 1 percent slopes | Biscay, depressional | 80 | Outwash plains | Yes | 2B3, 3 |
| | Biscay | 14 | Outwash plains | Yes | 2B3 |
| | Mayer | 5 | Outwash plains | Yes | 2B3 |
| | Shandep, depressional | 1 | Outwash plains | Yes | 2B3, 3 |
| L16A: Muskego, Blue Earth, and Houghton soils, ponded, 0 to 1 percent slopes | | | | | |
| | Blue Earth, ponded | 30 | Marshes, Moraines | Yes | 2B3, 3 |
| | Houghton, ponded | 30 | Marshes, Moraines | Yes | 1, 3 |
| | Muskego, ponded | 30 | Marshes, Moraines | Yes | 1, 3 |
| | Klossner, ponded | 10 | Marshes | Yes | 1, 3 |



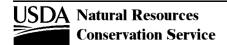
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|-----------------------------|---------------------------|----------------|------------------|--------------------|
| L46B: | | | | | |
| Tomall loam, 2 to 6 percent slopes | Tomall | 85 | Outwash plains | No | |
| | Linder | 10 | Outwash plains | No | |
| | Biscay | 2 | Outwash plains | Yes | 2B3 |
| | Shandep | 2 | Outwash plains | Yes | 2B3 |
| | Estherville | 1 | Outwash plains | No | |
| L65B: | | | | | |
| Augusta Lake fine sandy loam, 1 to 6 percent slopes | Augusta Lake | 85 | Moraines | No | |
| | Ocheyedan | 8 | Moraines | No | |
| | Dickinson, loamy substratum | 3 | Moraines | No | |
| | Grogan | 2 | Moraines | No | |
| | Lowlein | 2 | Moraines | No | |
| L66B: | | | | | |
| Bechyn-Germantown-Rock outcrop complex, 2 to 6 percent slopes | Bechyn | 35 | Moraines | No | |
| | Germantown | 30 | Moraines | No | |
| | Rock outcrop | 30 | Moraines | Unranked | |
| | Annton | 2 | Moraines | No | |
| | Soils deep to bedrock | 2 | Moraines | No | |
| | Little Cottonwood | 1 | Moraines | Yes | 2B3 |



Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|-----------------------|---------------------------|----------|------------------|--------------------|
| L66C: | | | | | |
| Bechyn-Germantown-Rock outcrop complex, 6 to 12 percent slopes | Bechyn | 35 | Moraines | No | |
| | Germantown | 30 | Moraines | No | |
| | Rock outcrop | 30 | Moraines | Unranked | |
| | Annton | 2 | Moraines | No | |
| | Soils deep to bedrock | 2 | Moraines | No | |
| | Little Cottonwood | 1 | Moraines | Yes | 2B3 |
| L67B: | | | | | |
| Crooksford silt loam, 1 to 5 percent slopes | Crooksford | 80 | Moraines | No | |
| | Clarion | 10 | Moraines | No | |
| | Nicollet | 5 | Moraines | No | |
| | Chetomba | 2 | Moraines | Yes | 2B3 |
| | Truman | 2 | Moraines | No | |
| | Swanlake | 1 | Moraines | No | |
| L68B: | | | | | |
| Germantown clay loam, 1 to 8 percent slopes | Germantown | 80 | Moraines | No | |
| | Soils deep to bedrock | 7 | Moraines | No | |
| | Bechyn | 5 | Moraines | No | |
| | Annton | 3 | Moraines | No | |
| | Rock outcrop | 3 | Moraines | Unranked | |
| | Mound Creek | 2 | Moraines | Yes | 2B3 |



Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|---------------------------|---------------------------|-----------------|---------------|--------------------|
| L69B: | | | | | |
| Grogan silt loam, 1 to 6 percent slopes | Grogan | 88 | Moraines | No | |
| | Augusta Lake | 3 | Moraines | No | |
| | Ocheyedan | 3 | Moraines | No | |
| | Clarion | 2 | Moraines | No | |
| | Madelia | 2 | Moraines | Yes | 2B3 |
| | Soils that are calcareous | 2 | Moraines | No | |
| L73A: Blue Earth mucky silty clay loam, depressional, 0 to 1 percent slopes | Blue Earth, depressional | 80 | Moraines | Yes | 2B3, 3 |
| | Canisteo | 10 | Moraines | Yes | 2B3 |
| | Belleville | 5 | Moraines | Yes | 2B3 |
| | Essexville | 5 | Moraines | Yes | 2B3 |
| L74A: Estherville sandy loam, 0 to 2 percent slopes | Estherville, terrace | 87 | Stream terraces | No | |
| | Hawick | 10 | Stream terraces | No | |
| | Biscay | 3 | Stream terraces | Yes | 2B3 |
| L76E: Dickinson fine sandy loam, 18 to 30 percent slopes | Dickinson | 85 | Stream terraces | No | |
| | Dickman | 8 | Stream terraces | No | |
| | Estherville | 5 | Stream terraces | No | |
| | Farrar | 2 | Stream terraces | No | |



Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|----------------------------|---------------------------|-------------|------------------|--------------------|
| L78A: Canisteo clay loam, 0 to 2 percent | Canisteo | 65 | Moraines | Yes | 2B3 |
| slopes | | 65 | Moranies | res | 203 |
| | Crippin | 10 | Moraines | No | |
| | Glencoe, depressional | 10 | Moraines | Yes | 2B3, 3 |
| | Canisteo, depressional | 5 | Moraines | Yes | 2B3, 3 |
| | Harps | 5 | Moraines | Yes | 2B3 |
| | Webster | 5 | Moraines | Yes | 2B3 |
| L79B: Clarion loam, 2 to 5 percent slopes | Clarion | 70 | Moraines | No | |
| | Clarion, moderately eroded | 14 | Moraines | No | |
| | Nicollet | 9 | Moraines | No | |
| | Ocheyedan | 5 | Moraines | No | |
| | Webster | 2 | Moraines | Yes | 2B3 |
| L82A: Marna silty clay loam, 0 to 2 percent slopes | Marna | 85 | Lake plains | Yes | 2B3 |
| | Barbert | 10 | Lake plains | Yes | 2B3, 3 |
| | Guckeen | 5 | Lake plains | No | |
| L83A: Webster clay loam, 0 to 2 percent slopes | Webster | 65 | Moraines | Yes | 2B3 |
| | Glencoe, depressional | 14 | Moraines | Yes | 2B3, 3 |
| | Canisteo | 8 | Moraines | Yes | 2B3 |
| | Nicollet | 8 | Moraines | No | |
| | Poorly drained soils | 5 | Moraines | Yes | 2B3 |
| | | | | | |



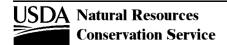
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|---|---------------------------|-------------|------------------|--------------------|
| L84A: | | | | | |
| Glencoe clay loam, depressional, 0 to 1 percent slopes | Glencoe, depressional | 80 | Moraines | Yes | 2B3, 3 |
| | Very poorly drained muck | 10 | Moraines | Yes | 2B3, 3 |
| | Canisteo | 5 | Moraines | Yes | 2B3 |
| | Harps | 5 | Moraines | Yes | 2B3 |
| L85A: Nicollet clay loam, 1 to 3 percent slopes | Nicollet | 85 | Moraines | No | |
| | Clarion | 10 | Moraines | No | |
| | Webster | 5 | Moraines | Yes | 2B3 |
| L86A: Madelia silty clay loam, 0 to 2 percent slopes | Madelia | 90 | Lake plains | Yes | 2B3 |
| опорос | Okoboji | 5 | Lake plains | Yes | 2B3, 3 |
| | Spicer | 3 | Lake plains | Yes | 2B3 |
| | Kingston | 2 | Lake plains | No | |
| L87A: Kingston silty clay loam, 1 to 3 percent slopes | Kingston | 85 | Lake plains | No | |
| · | Truman | 8 | Lake plains | No | |
| | Madelia | 5 | Lake plains | Yes | 2B3 |
| | Lakefield | 2 | Lake plains | No | |
| L88A: Lura silty clay, depressional, 0 to 1 percent slopes | Lura, depressional | 85 | Lake plains | Yes | 2B3, 3 |
| pordoni diopos | Brownton | 7 | Lake plains | Yes | 2B3 |
| | Depressional soils that have an organic surface layer | 5 | Lake plains | Yes | 2B3, 3 |
| | Prinsburg | 3 | Lake plains | Yes | 2B3 |



Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|------------------|---------------------------|------------------------------------|------------------|--------------------|
| L89A: Guckeen silty clay loam, 0 to 3 percent | Guckeen | 75 | Moraines | No | |
| slopes | Marna | 10 | Moraines | Yes | 2B3 |
| | Nicollet | 10 | Moraines | No | |
| | Clarion | 5 | Moraines | No | |
| L94A: Lowlein fine sandy loam, terrace, 0 to | Lowlein, terrace | 75 | Stream terraces | No | |
| 3 percent slopes | Linder | 15 | Stream terraces | No | |
| | Dickinson | 8 | Stream terraces | No | |
| | Darfur | 2 | Stream terraces | Yes | 2B3 |
| L95E: Hawick gravelly coarse sandy loam, 12 to 25 percent slopes | Hawick | 80 | Outwash plains | No | |
| 10 20 porosin stopes | Estherville | 10 | Outwash plains | No | |
| | Tomall | 10 | Outwash plains | No | |
| L96B: Estherville-Hawick complex, 2 to 6 percent slopes | Estherville | 55 | Outwash plains, Stream terraces | No | |
| | Hawick | 35 | Outwash plains, Stream terraces | No | |
| | Tomall | 8 | Outwash plains, Stream terraces | No | |
| | Biscay | 2 | Outwash plains, Stream terraces | Yes | 2B3 |
| L97C: Hawick-Estherville complex, 6 to 12 percent slopes | Hawick | 60 | Outwash plains, Stream terraces | No | |
| | Estherville | 30 | Outwash plains, Stream terraces | No | |
| | Tomall | 10 | Outwash plains, Stream terraces | No | |



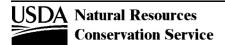
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|----------------------------|---------------------------|----------|------------------|--------------------|
| L98A: | | | | | |
| Crippin-Nicollet complex, 1 to 3 percent slopes | Crippin | 50 | Moraines | No | |
| | Nicollet | 40 | Moraines | No | |
| | Canisteo | 5 | Moraines | Yes | 2B3 |
| | Clarion | 5 | Moraines | No | |
| L99B: Clarion-Swanlake complex, 2 to 6 | Clarion | 62 | Moraines | No | |
| percent slopes | Swanlake | 25 | Moraines | No | |
| | | | | | |
| | Nicollet | 10 | Moraines | No | |
| | Webster | 3 | Moraines | Yes | 2B3 |
| L102C2: Omsrud-Storden complex, 6 to 12 percent slopes, moderately eroded | Omsrud, moderately eroded | 45 | Moraines | No | |
| | Storden, moderately eroded | 24 | Moraines | No | |
| | Omsrud | 14 | Moraines | No | |
| | Terril | 10 | Moraines | No | |
| | Delft | 5 | Moraines | Yes | 2B3 |
| | Crooksford | 2 | Moraines | No | |
| L102D2: | | | | | |
| Omsrud-Storden complex, 12 to 18 percent slopes, moderately eroded | Omsrud, moderately eroded | 45 | Moraines | No | |
| | Storden, moderately eroded | 20 | Moraines | No | |
| | Omsrud | 14 | Moraines | No | |
| | Ridgeton | 9 | Moraines | No | |
| | Delft | 6 | Moraines | Yes | 2B3 |
| | Terril | 6 | Moraines | No | |
| | | | | | |



Cottonwood County, Minnesota

| percent slopes | Jeffers, friable till substratum Canisteo | 50 | Moraines | Yes | |
|---|---|----|----------|-----|--------|
| percent slopes | substratum | 50 | Moraines | Yes | |
| | Canisteo | | | | 2B3 |
| | | 30 | Moraines | Yes | 2B3 |
| | Glencoe, depressional | 10 | Moraines | Yes | 2B3, 3 |
| | Crippin | 5 | Moraines | No | |
| | Webster | 4 | Moraines | Yes | 2B3 |
| | Revere | 1 | Moraines | Yes | 2B3 |
| L107A: Canisteo-Glencoe, depressional, complex, 0 to 2 percent slopes | Canisteo | 50 | Moraines | Yes | 2B3 |
| | Glencoe, depressional | 35 | Moraines | Yes | 2B3, 3 |
| | Harps | 10 | Moraines | Yes | 2B3 |
| | Canisteo, depressional | 3 | Moraines | Yes | 2B3, 3 |
| | Crippin | 2 | Moraines | No | |
| L111A: Nicollet silty clay loam, 1 to 3 percent slopes | Nicollet | 80 | Moraines | No | |
| | Okabena | 14 | Moraines | No | |
| | Clarion | 4 | Moraines | No | |
| | Webster | 2 | Moraines | Yes | 2B3 |
| L112A: Webster silty clay loam, 0 to 2 percent slopes | Webster | 80 | Moraines | Yes | 2B3 |
| • | Chetomba | 10 | Moraines | Yes | 2B3 |
| | Glencoe, depressional | 6 | Moraines | Yes | 2B3, 3 |
| | Canisteo | 2 | Moraines | Yes | 2B3 |
| | Nicollet | 2 | Moraines | No | |



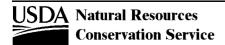
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|----------------------------------|---------------------------|--------------|------------------|--------------------|
| L129B: Terril loam, 2 to 6 percent slopes | Terril | 90 | Moraines | No | |
| remindant, 2 to 6 percent slopes | | | | | |
| | Clarion | 5 | Moraines | No | |
| | Delft | 5 | Moraines | Yes | 2B3 |
| L135A: Okabena silty clay loam, 1 to 3 percent slopes | Okabena | 85 | Moraines | No | |
| · | Kingston | 5 | Moraines | No | |
| | Nicollet | 4 | Moraines | No | |
| | Chetomba | 2 | Moraines | Yes | 2B3 |
| | Ocheda | 2 | Moraines | No | |
| | Waldorf | 2 | Moraines | Yes | 2B3 |
| L141A: Spillville loam, 0 to 2 percent slopes, occasionally flooded | Spillville, occasionally flooded | 86 | Flood plains | No | |
| | Coland, occasionally flooded | 8 | Flood plains | Yes | 2B3 |
| | Hanlon, occasionally flooded | 4 | Flood plains | No | |
| | Havelock, occasionally flooded | 2 | Flood plains | Yes | 2B3 |
| L142A: | | | | | |
| Jeffers clay loam, 0 to 2 percent slopes | Jeffers | 85 | Moraines | Yes | 2B3 |
| | Romnell, depressional | 10 | Moraines | Yes | 2B3, 3 |
| | Moines | 2 | Moraines | No | |
| | Pell Creek | 2 | Moraines | Yes | 2B3 |
| | Revere, firm till substratum | 1 | Moraines | Yes | 2B3 |



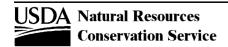
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|-----------------------|---------------------------|--|------------------|--------------------|
| L143A: Linder loam, 0 to 2 percent slopes | Linder | 85 | Outwash plains, | No | |
| | Minneopa | 5 | Outwash plains, | No | |
| | Biscay | 3 | Stream terraces Outwash plains, Stream terraces | Yes | 2B3 |
| | Estherville | 3 | Outwash plains, Stream terraces | No | |
| | Dickinson | 2 | Outwash plains, Stream terraces | No | |
| | Tomall | 2 | Outwash plains, Stream terraces | No | |
| L144A: | | | | | |
| Chetomba silty clay loam, 0 to 2 percent slopes | Chetomba | 75 | Moraines | Yes | 2B3 |
| | Waldorf | 13 | Moraines | Yes | 2B3 |
| | Webster | 5 | Moraines | Yes | 2B3 |
| | Okoboji, depressional | 3 | Moraines | Yes | 2B3, 3 |
| | Prinsburg | 3 | Moraines | Yes | 2B3 |
| | Okabena | 1 | Moraines | No | |
| L147A: Little Cottonwood clay loam, 0 to 3 percent slopes | Little Cottonwood | 85 | Moraines | Yes | 2B3 |
| percent dioped | Mound Creek | 10 | Moraines | Yes | 2B3 |
| | Delft | 3 | Moraines | Yes | 2B3 |
| | Bechyn | 1 | Moraines | No | |
| | Rock outcrop | 1 | Moraines | Unranked | |



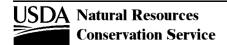
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|---|---------------------------|-----------------------|------------------|--------------------|
| L148A: | | | | | |
| Lowlein sandy loam, 1 to 3 percent slopes | Lowlein | 78 | Moraines | No | |
| | Augusta Lake | 14 | Moraines | No | |
| | Webster | 3 | Moraines | Yes | 2B3 |
| | Dickman | 2 | Moraines | No | |
| | Nicollet | 2 | Moraines | No | |
| | Dickinson, loamy substratum | 1 | Moraines | No | |
| L149A: Romnell clay loam, 0 to 3 percent slopes | Romnell | 85 | Moraines | Yes | 2B3 |
| | Soils that have more clay, depressional | 5 | Moraines | Yes | 2B3, 3 |
| | Pell Creek | 4 | Moraines | Yes | 2B3 |
| | Romnell, depressional | 4 | Moraines | Yes | 2B3, 3 |
| | Jeffers | 2 | Moraines | Yes | 2B3 |
| L150A: Prinsburg silty clay loam, 0 to 2 percent slopes | Prinsburg | 75 | Lake plains, Moraines | Yes | 2B3 |
| | Chetomba | 14 | Lake plains, Moraines | Yes | 2B3 |
| | Webster | 4 | Lake plains, Moraines | Yes | 2B3 |
| | Canisteo | 3 | Lake plains, Moraines | Yes | 2B3 |
| | Okabena | 2 | Lake plains, Moraines | No | |
| | Okoboji, depressional | 2 | Lake plains, Moraines | Yes | 2B3, 3 |
| L151A: Glencoe mucky silty clay loam, ponded, 0 to 1 percent slopes | Glencoe, ponded | 80 | Moraines | Yes | 2B3, 3 |
| ,, , | Okoboji, ponded | 14 | Moraines | Yes | 2B3, 3 |
| | Klossner, ponded | 6 | Moraines | Yes | 1, 3 |



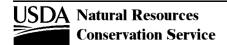
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| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|--|---------------------------|----------|------------------|--------------------|
| L152B: | | | | | |
| Lowlein-Round Lake complex, 1 to 6 percent slopes | Lowlein | 60 | Moraines | No | |
| | Round Lake | 20 | Moraines | No | |
| | Nicollet | 12 | Moraines | No | |
| | Farrar | 6 | Moraines | No | |
| | Webster | 2 | Moraines | Yes | 2B3 |
| L153A: | | | | | |
| Essexville sandy loam, 0 to 2 percent slopes | Essexville | 85 | Moraines | Yes | 2B3 |
| · | Canisteo | 5 | Moraines | Yes | 2B3 |
| | Glencoe, depressional | 4 | Moraines | Yes | 2B3, 3 |
| | Belleville | 3 | Moraines | Yes | 2B3 |
| | Very poorly drained soils in depressions | 2 | Moraines | Yes | 2B3, 3 |
| | Somewhat poorly drained soils | 1 | Moraines | No | |
| L154E: | | | | | |
| Belview-Ridgeton complex, 15 to 45 percent slopes | Belview | 60 | Moraines | No | |
| | Ridgeton | 22 | Moraines | No | |
| | Omsrud | 14 | Moraines | No | |
| | Delft | 2 | Moraines | Yes | 2B3 |
| | Terril | 2 | Moraines | No | |



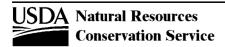
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| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|----------------------------|---------------------------|----------|------------------|--------------------|
| L156C2: | | | | | |
| Omsrud-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately | Omsrud, moderately eroded | 44 | Moraines | No | |
| eroded | Storden, moderately eroded | 24 | Moraines | No | |
| | Pilot Grove | 20 | Moraines | No | |
| | Hawick | 8 | Moraines | No | |
| | Delft | 2 | Moraines | Yes | 2B3 |
| | Terril | 2 | Moraines | No | |
| L156D2: Omsrud-Storden-Pilot Grove complex, | Omsrud, moderately eroded | 50 | Moraines | No | |
| 12 to 18 percent slopes, moderately eroded | Storden, moderately eroded | 25 | Moraines | No | |
| | Pilot Grove | 15 | Moraines | No | |
| | Hawick | 4 | Moraines | No | |
| | Delft | 2 | Moraines | Yes | 2B3 |
| | Ridgeton | 2 | Moraines | No | |
| | Terril | 2 | Moraines | No | |
| L158B: | Dayad Lake | 90 | Marainaa | No | |
| Round Lake sandy loam, 1 to 6 percent slopes | Round Lake | 80 | Moraines | No | |
| | Lowlein | 13 | Moraines | No | |
| | Ocheyedan | 3 | Moraines | No | |
| | Estherville | 2 | Moraines | No | |
| | Webster | 2 | Moraines | Yes | 2B3 |



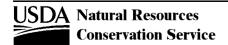
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|-----------------------------|---------------------------|----------|---------------|--------------------|
| L159A: | | | | | |
| Knoke mucky silty clay loam, depressional, 0 to 1 percent slopes | Knoke, depressional | 85 | Moraines | Yes | 2B3, 3 |
| | Okoboji, depressional | 5 | Moraines | Yes | 2B3, 3 |
| | Essexville | 4 | Moraines | Yes | 2B3 |
| | Canisteo, depressional | 3 | Moraines | Yes | 2B3, 3 |
| | Canisteo | 3 | Moraines | Yes | 2B3 |
| L160B: | | | | | |
| Dickinson sandy loam, loamy substratum, 1 to 6 percent slopes | Dickinson, loamy substratum | 85 | Moraines | No | |
| | Farrar | 8 | Moraines | No | |
| | Lowlein | 7 | Moraines | No | |
| L161C: | | | | | |
| Estherville-Pilot Grove complex, 6 to 12 percent slopes | Estherville | 38 | Moraines | No | |
| | Pilot Grove | 38 | Moraines | No | |
| | Well drained soils | 14 | Moraines | No | |
| | Hawick | 6 | Moraines | No | |
| | Delft | 2 | Moraines | Yes | 2B3 |
| | Terril | 2 | Moraines | No | |
| L162B: | | | | | |
| Clarion-Round Lake complex, 2 to 6 percent slopes | Clarion | 45 | Moraines | No | |
| | Round Lake | 30 | Moraines | No | |
| | Estherville | 8 | Moraines | No | |
| | Lowlein | 5 | Moraines | No | |
| | Nicollet | 5 | Moraines | No | |
| | Swanlake | 5 | Moraines | No | |
| | Webster | 2 | Moraines | Yes | 2B3 |
| | | | | | |



Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|-----------------------|---------------------------|------------------------------------|------------------|--------------------|
| L163A: | Okoboji, depressional | 92 | Moraines | Yes | 2B3, 3 |
| Okoboji silty clay loam, depressional, 0 to 1 percent slopes | Okoboji, depressional | 92 | Moranies | res | 203, 3 |
| | Canisteo | 2 | Moraines | Yes | 2B3 |
| | Harpster | 2 | Moraines | Yes | 2B3 |
| | Knoke, depressional | 2 | Moraines | Yes | 2B3, 3 |
| | Prinsburg | 2 | Moraines | Yes | 2B3 |
| L165A: Mayer loam, 0 to 2 percent slopes | Mayer | 85 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Biscay | 5 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Regal | 5 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Biscay, depressional | 2 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Harcot | 2 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Linder | 1 | Outwash plains, Stream terraces | No | |
| L167A: Mayer clay loam, depressional, 0 to 1 perent slopes | Mayer, depressional | 85 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Biscay, depressional | 10 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Mayer | 3 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Biscay | 2 | Outwash plains, Stream terraces | Yes | 2B3 |



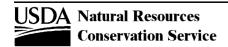
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|----------------------------|---------------------------|------------------------------------|------------------|--------------------|
| L168A: Minneopa sandy loam, 0 to 3 percent | Minneopa | 85 | Outwash plains, | No | |
| slopes | wiii iii eopa | 00 | Stream terraces | NO | |
| | Estherville | 6 | Outwash plains, Stream terraces | No | |
| | Well drained soils | 3 | Outwash plains, Stream terraces | No | |
| | Biscay | 2 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Linder | 2 | Outwash plains, Stream terraces | No | |
| | Tomall | 2 | Outwash plains, Stream terraces | No | |
| L169A: | | | | | |
| Minneopa sandy loam, sandy substratum, 0 to 3 percent slopes | Minneopa, sandy substratum | 85 | Outwash plains, Stream terraces | No | |
| | Dickman | 5 | Outwash plains, Stream terraces | No | |
| | Linder | 5 | Outwash plains, Stream terraces | No | |
| | Hanska | 3 | Outwash plains | Yes | 2B3 |
| | Dickinson | 2 | Outwash plains, Stream terraces | No | |
| L170B: Estherville-Round Lake complex, 2 to 6 percent slopes | Estherville | 50 | Moraines | No | |
| | Round Lake | 45 | Moraines | No | |
| | Lowlein | 3 | Moraines | No | |
| | Poorly drained soils | 2 | Moraines | Yes | 2B3 |



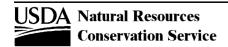
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|---------------------------------------|---------------------------|--------------|------------------|--------------------|
| L172D2: Storden, firm till-Annton complex, 12 to 18 percent slopes, moderately eroded | Storden, moderately eroded, firm till | 45 | Moraines | No | |
| | Annton, moderately, eroded | 40 | Moraines | No | |
| | Ridgeton | 6 | Moraines | No | |
| | Coland, frequently flooded | 5 | Flood plains | Yes | 2B3, 4 |
| | Romnell | 2 | Moraines | Yes | 2B3 |
| | Terril, firm till substratum | 2 | Moraines | No | |
| L173A: Moines clay loam, 1 to 3 percent slopes | Moines | 85 | Moraines | No | |
| | Jeffers | 8 | Moraines | Yes | 2B3 |
| | Walnut Grove | 5 | Moraines | No | |
| | Romnell, depressional | 2 | Moraines | Yes | 2B3, 3 |
| L174A: Mound Creek clay loam, 0 to 2 percent slopes | Mound Creek | 85 | Moraines | Yes | 2B3 |
| | Little Cottonwood | 8 | Moraines | Yes | 2B3 |
| | Delft | 6 | Moraines | Yes | 2B3 |
| | Germantown | 1 | Moraines | No | |
| L175A: Rolfe silt loam, depressional, 0 to 1 percent slopes | Rolfe, depressional | 90 | Moraines | Yes | 2B3, 3 |
| | Glencoe, depressional | 6 | Moraines | Yes | 2B3, 3 |
| | Webster | 4 | Moraines | Yes | 2B3 |



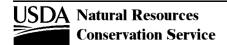
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|-----------------------------------|---------------------------|------------------------------------|------------------|--------------------|
| L176A: | | | | | |
| Shandep clay loam, 0 to 2 percent slopes, occasionally flooded | Shandep, occasionally flooded | 80 | Flood plains | Yes | 2B3 |
| | Biscay, occasionally flooded | 12 | Flood plains | Yes | 2B3 |
| | Havelock, occasionally flooded | 3 | Flood plains | Yes | 2B3 |
| | Coland, occasionally flooded | 2 | Flood plains | Yes | 2B3 |
| | Minneopa, occasionally flooded | 2 | Flood plains | No | |
| | Southbrook, occasionally flooded | 1 | Flood plains | Yes | 2B3 |
| L178A: | | | | | |
| Mayer mucky clay loam, ponded, 0 to 1 percent slopes | Mayer, ponded | 78 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Shandep, ponded | 8 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Biscay, ponded | 7 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Blue Earth, ponded | 5 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Very poorly drained soils, ponded | 2 | Outwash plains, Stream terraces | Yes | 2B3, 3 |



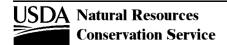
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|--|---------------------------|--------------|------------------|--------------------|
| L183A: | | | | | |
| Mayer, ponded-Mayer complex, 0 to 2 percent slopes, flooded | Mayer, frequently flooded, ponded | 50 | Flood plains | Yes | 2B3, 3, 4 |
| | Mayer, occasionally flooded | 40 | Flood plains | Yes | 2B3 |
| | Biscay, frequently flooded, ponded | 5 | Flood plains | Yes | 2B3, 3, 4 |
| | Linder, occasionally flooded | 2 | Flood plains | No | |
| | Shandep, frequently flooded, ponded | 2 | Flood plains | Yes | 2B3, 3, 4 |
| | Soils with a mucky surface layer, frequently flooded, ponded | 1 | Flood plains | Yes | 2B3, 3, 4 |
| L188A: | | | | | |
| Romnell clay loam, depressional, 0 to 1 percent slopes | Romnell, depressional | 85 | Moraines | Yes | 2B3, 3 |
| | Jeffers | 5 | Moraines | Yes | 2B3 |
| | Soils that have more clay, depressional | 5 | Moraines | Yes | 2B3, 3 |
| | Pell Creek | 3 | Moraines | Yes | 2B3 |
| | Romnell | 2 | Moraines | Yes | 2B3 |
| L189A: | | | | | |
| Mayer clay loam, ponded, 0 to 1 percent slopes, frequently flooded | Mayer, frequently flooded, ponded | 75 | Flood plains | Yes | 2B3, 3, 4 |
| | Mayer, occasionally flooded | 10 | Flood plains | Yes | 2B3 |
| | Shandep, frequently flooded, ponded | 6 | Flood plains | Yes | 2B3, 3, 4 |
| | Biscay, occasionally flooded | 4 | Flood plains | Yes | 2B3 |
| | Soils with a mucky surface layer, frequently flooded, ponded | 4 | Flood plains | Yes | 2B3, 3, 4 |
| | Linder, occasionally flooded | 1 | Flood plains | No | |



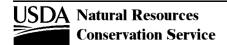
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|----------------------------------|---------------------------|--------------|------------------|--------------------|
| L193A: | | | | | |
| Shandep clay loam, 0 to 2 percent slopes, frequently flooded | Shandep, frequently flooded | 80 | Flood plains | Yes | 2B3, 4 |
| | Biscay, frequently flooded | 14 | Flood plains | Yes | 2B3, 4 |
| | Coland, frequently flooded | 2 | Flood plains | Yes | 2B3, 4 |
| | Havelock, frequently flooded | 2 | Flood plains | Yes | 2B3, 4 |
| | Minneopa, occasionally flooded | 1 | Flood plains | No | |
| | Southbrook, frequently flooded | 1 | Flood plains | Yes | 2B3, 4 |
| L194A: | | | | | |
| Southbrook silty clay loam, 0 to 2 percent slopes, occasionally flooded | Southbrook, occasionally flooded | 85 | Flood plains | Yes | 2B3 |
| | Coland, occasionally flooded | 5 | Flood plains | Yes | 2B3 |
| | Zook, occasionally flooded | 5 | Flood plains | Yes | 2B3 |
| | Calco, occasionally flooded | 3 | Flood plains | Yes | 2B3 |
| | Spillville, occasionally flooded | 2 | Flood plains | No | |
| L196A: | | | | | |
| Spicer silty clay loam, 0 to 2 percent slopes | Spicer | 85 | Lake plains | Yes | 2B3 |
| | Madelia | 5 | Lake plains | Yes | 2B3 |
| | Okoboji, depressional | 4 | Lake plains | Yes | 2B3, 3 |
| | Lakefield | 3 | Lake plains | No | |
| | Prinsburg | 2 | Lake plains | Yes | 2B3 |
| | Kingston | 1 | Lake plains | No | |
| | | | | | |



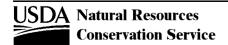
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|-----------------------|---------------------------|------------------------------------|------------------|--------------------|
| L197A: | | | | | |
| Mayer-Mayer, depressional, complex, 0 to 2 percent slopes | Mayer | 50 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Mayer, depressional | 30 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Shandep, depressional | 10 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Biscay, depressional | 5 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Biscay | 4 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Linder | 1 | Outwash plains, Stream terraces | No | |
| L198A: North Twin-Walnut Grove complex, 0 | North Twin | 70 | Moraines | No | |
| to 2 percent slopes | Walnut Grove | 20 | Moraines | No | |
| | Pell Creek | 9 | Moraines | Yes | 2B3 |
| | Romnell, depressional | 1 | Moraines | Yes | 2B3, 3 |
| L198B: | = . | | | | |
| North Twin-Walnut Grove complex, 1 to 4 percent slopes | North Twin | 60 | Moraines | No | |
| | Walnut Grove | 25 | Moraines | No | |
| | Pell Creek | 10 | Moraines | Yes | 2B3 |
| | Annton | 5 | Moraines | No | |
| L201A: Normania loam, 1 to 3 percent slopes | Normania | 85 | Moraines | No | |
| | Amiret | 7 | Moraines | No | |
| | Seaforth | 3 | Moraines | No | |
| | Webster | 3 | Moraines | Yes | 2B3 |
| | Canisteo | 2 | Moraines | Yes | 2B3 |



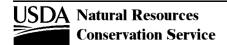
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|--------------------------------|---------------------------|--------------|---------------|--------------------|
| L202A: | | | | | |
| Pell Creek-Romnell complex, 0 to 2 percent slopes | Pell Creek | 55 | Moraines | Yes | 2B3 |
| | Romnell | 35 | Moraines | Yes | 2B3 |
| | Romnell, depressional | 4 | Moraines | Yes | 2B3, 3 |
| | Jeffers | 3 | Moraines | Yes | 2B3 |
| | Walnut Grove | 3 | Moraines | No | |
| L203A: | | | | | |
| Seaforth loam, 1 to 3 percent slopes | Seaforth | 85 | Moraines | No | |
| | Canisteo | 7 | Moraines | Yes | 2B3 |
| | Amiret | 2 | Moraines | No | |
| | Harps | 2 | Moraines | Yes | 2B3 |
| | Webster | 2 | Moraines | Yes | 2B3 |
| | Normania | 1 | Moraines | No | |
| | Swanlake | 1 | Moraines | No | |
| L207F: | | | | | |
| Belview-Ridgeton complex, 18 to 40 percent slopes, firm till substratum | Belview, firm till substratum | 75 | Moraines | No | |
| | Ridgeton, firm till substratum | 15 | Moraines | No | |
| | Coland, frequently flooded | 5 | Flood plains | Yes | 2B3, 4 |
| | Terril, firm till substratum | 5 | Moraines | No | |



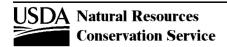
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|-----------------------|---------------------------|----------|------------------|--------------------|
| L208B: | | | | | |
| Swanlake-Round Lake complex, 2 to 6 percent slopes | Swanlake | 45 | Moraines | No | |
| | Round Lake | 35 | Moraines | No | |
| | Clarion | 10 | Moraines | No | |
| | Estherville | 5 | Moraines | No | |
| | Webster | 3 | Moraines | Yes | 2B3 |
| | Lowlein | 2 | Moraines | No | |
| L209A: Walnut Grove-Pell Creek complex, 0 to | Walnut Grove | 70 | Moraines | No | |
| 2 percent slopes | | | | | |
| | Pell Creek | 20 | Moraines | Yes | 2B3 |
| | Romnell | 5 | Moraines | Yes | 2B3 |
| | North Twin | 2 | Moraines | No | |
| | Romnell, depressional | 2 | Moraines | Yes | 2B3, 3 |
| | Moines | 1 | Moraines | No | |
| L211B: | | | | | |
| Amiret-Swanlake-Round Lake complex, 2 to 6 percent slopes | Amiret | 35 | Moraines | No | |
| | Swanlake | 30 | Moraines | No | |
| | Round Lake | 20 | Moraines | No | |
| | Terril | 8 | Moraines | No | |
| | Webster | 5 | Moraines | Yes | 2B3 |
| | Hawick | 2 | Moraines | No | |



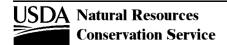
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|----------------------------------|---------------------------|------------------------------------|------------------|--------------------|
| L213A: | | | | ., | |
| Calco silty clay loam, 0 to 2 percent slopes, frequently flooded | Calco, frequently flooded | 85 | Flood plains | Yes | 2B3, 4 |
| | Oshawa, frequently flooded | 5 | Flood plains | Yes | 2B3, 3, 4 |
| | Burr, frequently flooded | 4 | Flood plains | Yes | 2B3 |
| | Du Page, occasionally flooded | 2 | Flood plains | No | |
| | Rushriver, frequently flooded | 2 | Flood plains | Yes | 2B3, 4 |
| | Spillville, occasionally flooded | 2 | Flood plains | No | |
| L215A: Dickman sandy loam, 0 to 2 percent slopes | Dickman | 85 | Outwash plains, Stream terraces | No | |
| | Linder | 5 | Outwash plains, Stream terraces | No | |
| | Biscay | 3 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Minneopa | 3 | Outwash plains, Stream terraces | No | |
| | Dickinson | 2 | Outwash plains, Stream terraces | No | |
| | Lowlein | 2 | Outwash plains, Stream terraces | No | |
| L215B: Dickman sandy loam, 2 to 6 percent slopes | Dickman | 85 | Outwash plains, Stream terraces | No | |
| | Linder | 5 | Outwash plains, Stream terraces | No | |
| | Minneopa | 5 | Outwash plains, Stream terraces | No | |
| | Biscay | 3 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Dickinson | 2 | Outwash plains, Stream terraces | No | |



Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|----------------------------|---------------------------|------------------------------------|------------------|--------------------|
| L215C: | | | | | |
| Dickman sandy loam, 6 to 12 percent slopes | Dickman | 85 | Outwash plains, Stream terraces | No | |
| | Estherville | 5 | Outwash plains, Stream terraces | No | |
| | Tomall | 3 | Outwash plains, Stream terraces | No | |
| | Biscay | 2 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Hanska | 2 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Lowlein | 2 | Outwash plains, Stream terraces | No | |
| | Pilot Grove | 1 | Outwash plains, Stream terraces | No | |
| L217C2: | | | | | |
| Ves-Storden complex, 6 to 12 percent slopes, moderately eroded | Ves, moderately eroded | 55 | Moraines | No | |
| , | Storden, moderately eroded | 37 | Moraines | No | |
| | Amiret | 3 | Moraines | No | |
| | Terril | 3 | Moraines | No | |
| | Delft | 1 | Moraines | Yes | 2B3 |
| | Normania | 1 | Moraines | No | |
| L218B: | | | | | |
| Amiret loam, 2 to 5 percent slopes | Amiret | 85 | Moraines | No | |
| | Normania | 10 | Moraines | No | |
| | Swanlake | 2 | Moraines | No | |
| | Webster | 2 | Moraines | Yes | 2B3 |
| | Seaforth | 1 | Moraines | No | |
| | | | | | |



Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|----------------------------------|---------------------------|--------------|------------------|--------------------|
| L219A: | | | | | |
| Coland clay loam, 0 to 2 percent slopes, occasionally flooded | Coland, occasionally flooded | 80 | Flood plains | Yes | 2B3 |
| | Minneopa, occasionally flooded | 8 | Flood plains | No | |
| | Havelock, occasionally flooded | 5 | Flood plains | Yes | 2B3 |
| | Shandep, occasionally flooded | 5 | Flood plains | Yes | 2B3 |
| | Spillville, occasionally flooded | 2 | Flood plains | No | |
| L222C2: | | | | | |
| Ves-Storden-Pilot Grove complex, 6 to 12 percent slopes, moderately eroded | Ves, moderately eroded | 35 | Moraines | No | |
| | Storden, moderately eroded | 30 | Moraines | No | |
| | Pilot Grove | 25 | Moraines | No | |
| | Terril | 6 | Moraines | No | |
| | Delft | 2 | Moraines | Yes | 2B3 |
| | Hawick | 2 | Moraines | No | |
| L223B: | | | | | |
| Amiret-Swanlake complex, 2 to 6 percent slopes | Amiret | 50 | Moraines | No | |
| | Swanlake | 35 | Moraines | No | |
| | Webster | 5 | Moraines | Yes | 2B3 |
| | Normania | 4 | Moraines | No | |
| | Delft | 2 | Moraines | Yes | 2B3 |
| | Seaforth | 2 | Moraines | No | |
| | Terril | 2 | Moraines | No | |
| | | | | | |



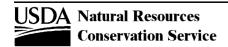
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|---------------------------------------|---------------------------|--------------|------------------|--------------------|
| L224A: | | | | | |
| Coland clay loam, 0 to 2 percent slopes, frequently flooded | Coland, frequently flooded | 85 | Flood plains | Yes | 2B3, 4 |
| | Havelock, frequently flooded | 6 | Flood plains | Yes | 2B3, 4 |
| | Minneopa, occasionally flooded | 5 | Flood plains | No | |
| | Shandep, frequently flooded | 2 | Flood plains | Yes | 2B3, 4 |
| | Spillville, occasionally flooded | 2 | Flood plains | No | |
| L225B: Annton-North Twin complex, 2 to 6 percent slopes | Annton | 50 | Moraines | No | |
| | North Twin | 30 | Moraines | No | |
| | Swanlake, firm till | 10 | Moraines | No | |
| | Walnut Grove | 8 | Moraines | No | |
| | Pell Creek | 2 | Moraines | Yes | 2B3 |
| L226C2: Annton-Storden, firm till, complex, 6 to | Annton, moderately eroded | 45 | Moraines | No | |
| 12 percent slopes, moderately eroded | | | | | |
| | Storden, moderately eroded, firm till | 35 | Moraines | No | |
| | Annton | 10 | Moraines | No | |
| | Terril, firm till substratum | 7 | Moraines | No | |
| | Romnell | 3 | Moraines | Yes | 2B3 |
| L227B: | _ | | | | |
| Truman silt loam, 2 to 6 percent slopes | Truman | 85 | Lake plains | No | |
| | Kingston | 10 | Lake plains | No | |
| | Madelia | 4 | Lake plains | Yes | 2B3 |
| | Bold | 1 | Lake plains | No | |



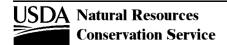
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|---|---------------------------|----------|------------------|--------------------|
| L228B: | | | | | |
| Clarion-Ocheyedan complex, 2 to 5 percent slopes | Clarion | 70 | Moraines | No | |
| | Ocheyedan | 20 | Moraines | No | |
| | Nicollet | 8 | Moraines | No | |
| | Webster | 2 | Moraines | Yes | 2B3 |
| L229A: | | | | | |
| Romnell silty clay loam, depressional, 0 to 1 percent slopes | Romnell, depressional | 80 | Moraines | Yes | 2B3, 3 |
| | Soils that have more clay, depressional | 15 | Moraines | Yes | 2B3, 3 |
| | Jeffers | 2 | Moraines | Yes | 2B3 |
| | Romnell | 2 | Moraines | Yes | 2B3 |
| | Pell Creek | 1 | Moraines | Yes | 2B3 |
| L230A: | | | | ., | |
| Biscay clay loam, loamy substratum, 0 to 2 percent slopes | Biscay, loamy substratum | 70 | Moraines | Yes | 2B3 |
| | Biscay | 15 | Moraines | Yes | 2B3 |
| | Poorly drained soils | 10 | Moraines | Yes | 2B3 |
| | Biscay, depressional | 3 | Moraines | Yes | 2B3, 3 |
| | Mayer | 1 | Moraines | Yes | 2B3 |
| | Moderately well drained soils | 1 | Moraines | No | |



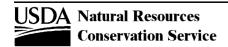
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|--|---------------------------|--------------|------------------|--------------------|
| L231A: | | | | | |
| Mayer clay loam, loamy substratum, 0 to 2 percent slopes | Mayer, loamy substratum | 70 | Moraines | Yes | 2B3 |
| | Mayer | 15 | Moraines | Yes | 2B3 |
| | Coriff | 8 | Moraines | Yes | 2B3 |
| | Biscay, depressional | 3 | Moraines | Yes | 2B3, 3 |
| | Biscay | 2 | Moraines | Yes | 2B3 |
| | Poorly drained soils | 2 | Moraines | Yes | 2B3 |
| L232A: | | | | | |
| Havelock clay loam, sandy substratum, 0 to 2 percent slopes, rarey flooded | Havelock, sandy substratum, rarely flooded | 85 | Flood plains | Yes | 2B3 |
| | Havelock, rarely flooded | 8 | Flood plains | Yes | 2B3 |
| | Riverston, rarely flooded | 3 | Flood plains | Yes | 2B3 |
| | Shandep, rarely flooded | 2 | Flood plains | Yes | 2B3 |
| | Spillville, rarely flooded | 2 | Flood plains | No | |
| L233A: | | | | | |
| Lakefield silty clay loam, 0 to 3 percent slopes | Lakefield | 90 | Lake plains | No | |
| | Corwith | 4 | Lake plains | No | |
| | Kingston | 2 | Lake plains | No | |
| | Spicer | 2 | Lake plains | Yes | 2B3 |
| | Madelia | 1 | Lake plains | Yes | 2B3 |
| | Truman | 1 | Lake plains | No | |



Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|--|--|---------------------------|------------------------------------|------------------|--------------------|
| L234A: | | | | | |
| Romnell silty clay loam, ponded, 0 to 1 percent slopes | Romnell, ponded | 80 | Moraines | Yes | 2B3, 3 |
| | Soils that have more clay, ponded | 15 | Moraines | Yes | 2B3, 3 |
| | Jeffers | 4 | Moraines | Yes | 2B3 |
| | Pell Creek | 1 | Moraines | Yes | 2B3 |
| L235A: | | | | | |
| Riverston clay loam, 0 to 2 percent slopes, occasionally flooded | Riverston, occasionally flooded | 85 | Flood plains | Yes | 2B3 |
| | Poorly drained soils, occasionally flooded | 10 | Flood plains | Yes | 2B3 |
| | Havelock, occasionally flooded | 2 | Flood plains | Yes | 2B3 |
| | Shandep, occasionally flooded | 2 | Flood plains | Yes | 2B3 |
| | Spillville, occasionally flooded | 1 | Flood plains | No | |
| L236A: | | | | | |
| Shandep clay loam, depressional, 0 to 1 percent slopes | Shandep, depressional | 90 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Darfur | 4 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Biscay, depressional | 3 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Fieldon | 2 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Mayer | 1 | Outwash plains, Stream terraces | Yes | 2B3 |



Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|---------------------------------|---------------------------|------------------------------------|------------------|--------------------|
| L238A: Webster-Delft complex, 0 to 3 percent | Webster | 55 | Moraines | Yes | 2B3 |
| slopes | Delft | 30 | Moraines | Yes | 2B3 |
| | Canisteo | 5 | Moraines | Yes | 2B3 |
| | Glencoe, depressional | 5 | Moraines | Yes | 2B3, 3 |
| | Delft, overwash | 3 | Moraines | No | |
| | Nicollet | 2 | Moraines | No | |
| L239A: Revere clay loam, 0 to 2 percent slopes | Revere | 90 | Moraines | Yes | 2B3 |
| | Glencoe, depressional | 6 | Moraines | Yes | 2B3, 3 |
| | Canisteo | 2 | Moraines | Yes | 2B3 |
| | Seaforth | 1 | Moraines | No | |
| | Webster | 1 | Moraines | Yes | 2B3 |
| L240A: Shandep mucky loam, ponded, 0 to 1 percent slopes | Shandep, ponded | 85 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Biscay, ponded | 6 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Mayer | 5 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Biscay | 4 | Outwash plains, Stream terraces | Yes | 2B3 |
| L241B: Dickinson fine sandy loam, firm till substratum, 1 to 6 percent slopes | Dickinson, firm till substratum | 85 | Moraines | No | |
| | Lowlein, firm till substratum | 12 | Moraines | No | |
| | Dickman | 2 | Moraines | No | |
| | Walnut Grove | 1 | Moraines | No | |



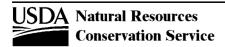
Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|--|---------------------------|------------------------------------|------------------|--------------------|
| L242B: | | | | | |
| Terril loam, firm till substratum, 2 to 6 percent slopes | Terril, firm till substratum | 90 | Moraines | No | |
| | Annton | 5 | Moraines | No | |
| | Romnell | 5 | Moraines | Yes | 2B3 |
| L245A: Shandep loam, 0 to 2 percent slopes | Shandep | 80 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Poorly drained soils | 10 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Shandep, depressional | 5 | Outwash plains, Stream terraces | Yes | 2B3, 3 |
| | Biscay | 3 | Outwash plains, Stream terraces | Yes | 2B3 |
| | Linder | 2 | Outwash plains, Stream terraces | No | |
| L248B: Annton-Swanlake, firm till, complex, 3 to 6 percent slopes | Annton | 55 | Moraines | No | |
| | Swanlake, firm till | 35 | Moraines | No | |
| | Walnut Grove | 5 | Moraines | No | |
| | Moines | 2 | Moraines | No | |
| | Storden, moderately eroded, firm till substratum | 2 | Moraines | No | |
| | Pell Creek | 1 | Moraines | Yes | 2B3 |
| L249A: Knoke silty clay loam, firm till substratum, depressional, 0 to 1 percent slopes | Knoke, firm till substratum, depressional | 85 | Moraines | Yes | 2B3, 3 |
| | Romnell, depressional | 10 | Moraines | Yes | 2B3, 3 |
| | Jeffers | 5 | Moraines | Yes | 2B3 |



Cottonwood County, Minnesota

| Map symbol and map unit name | Component | Percent of map unit | Landform | Hydric rating | Hydric criteria |
|---|--|---------------------------|----------------|---------------|--------------------|
| L255D2: | 0 | | | | |
| Storden-Ves complex, 12 to 18 percent slopes, moderately eroded | Storden, moderately eroded | 60 | Moraines | No | |
| | Ves, moderately eroded | 25 | Moraines | No | |
| | Terril | 10 | Moraines | No | |
| | Delft | 3 | Moraines | Yes | 2B3 |
| | Ridgeton | 2 | Moraines | No | |
| L256D2: | | | | | |
| Storden-Ves-Pilot Grove complex, 12 to 18 percent slopes, moderately | Storden, moderately eroded | 40 | Moraines | No | |
| eroded | Pilot Grove | 25 | Moraines | No | |
| | Ves, moderately eroded | 25 | Moraines | No | |
| | Ridgeton | 4 | Moraines | No | |
| | Delft | 2 | Moraines | Yes | 2B3 |
| | Hawick | 2 | Moraines | No | |
| | Terril | 2 | Moraines | No | |
| L257A: | | | | | |
| Blue Earth mucky silt loam, sandy substratum, depressional, 0 to 1 percent slopes | Blue Earth, depressional, sandy substratum | 85 | Outwash plains | Yes | 2B3, 3 |
| percent stopes | Very poorly drained soils, depressional | 10 | Outwash plains | Yes | 2B3, 3 |
| | Mayer | 5 | Outwash plains | Yes | 2B3 |
| M-W: Water, miscellaneous | Water, miscellaneous | 100 | | Unranked | |
| W: Water | Water | 100 | | Unranked | |



This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

- 1. All Histels except for Folistels, and Histosols except for Folists.
- 2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
 - B. are poorly drained or very poorly drained and have either:
 - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
 - 2) a water table at a depth of 0.5 foot or less during the growing season if
 - permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
 - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
- 3. Soils that are frequently ponded for long or very long duration during the growing season.
- 4. Soils that are frequently flooded for long or very long duration during the growing season.

References

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. September 18, 2002. Hydric soils of the United States.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Hurt, G.W., P.M. Whited, and R.F. Pringle, editors. Version 5.0, 2002. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 2003. Keys to soil taxonomy. 9th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

